INTERNATIONAL ASTRONOMICAL UNION

COMMISSION G1 (BINARY AND MULTIPLE STAR SYSTEMS)

DOUBLE STARS INFORMATION CIRCULAR No. 212 (FEBRUARY 2024)

NEW ORBITS

WDS HIP	Name ADS	P(yr) σ_P	T(yr) σ_T	e σ_e	a($''$) σ_a	i(°) σ_i	Ω(°) σ_Ω	ω(°) σ_ω	2024 2025	Author(s) Last obs.
00024+1047	A 1249AB	58.86	2002.91	0.8058	0.2004	110.6	66.4	18.6	243.2 0.338	TOK
190	17180	±1.25	±0.55	±0.0218	±0.0031	±1.4	±2.2	±5.9	242.8 0.342	2017.680
00026+1841	HDS 2Aa,Ab	22.68	2020.967	0.6313	0.1106	59.8	17.4	302.2	66.7 0.063	TOK
201	–	±0.34	±0.074	±0.0130	±0.0028	±1.3	±2.3	±3.1	85.3 0.065	2023.571
00061+0943	HDS 7	51.24	2003.830	0.5340	0.2145	60.0	184.1	237.1	209.1 0.257	TOK
510	–	±1.11	±0.106	±0.0136	±0.0032	±0.9	±1.1	±2.1	211.2 0.252	2023.738
00098−3347	SEE 3	295.6	1978.66	0.7698	0.9284	33.1	274.3	72.5	127.6 0.977	TOK
794	–	±8.6	±0.48	±0.0085	±0.0200	±2.0	±3.4	±3.4	128.2 0.988	2023.896
00143−2732	HDS 33	10.150	2013.465	0.6084	0.1222	27.6	33.3	82.5	179.8 0.057	TOK
1144	–	±0.016	±0.0167	±0.0036	±0.0010	±1.1	±2.7	±2.4	235.6 0.112	2023.896
00304−6236	JNN 296Aa,Ab	30.0	2016.88	0.434	0.202	132.2	95.9	41.1	280.7 0.230	TOK
–	–	...	...	...	...	...	...	...	275.4 0.245	2024.019
00321−1218	HDS 71	62.2	2035.84	0.216	0.273	131.5	124.9	320.2	269.7 0.221	TOK
2532	–	...	...	...	...	...	...	...	263.6 0.206	2023.006
01017+2518	HDS 134	16.563	2015.209	0.3959	0.1303	59.0	237.1	288.0	6.9 0.112	TOK
4809	–	±0.056	±0.070	±0.0117	±0.0017	±0.7	±0.7	±0.6	19.4 0.124	2023.571
01048+0135	A 2310	160.6	1936.3	0.471	0.2242	114.7	136.5	8.4	310.0 0.318	TOK
5064	884	±11.1	±4.0	±0.039	±0.0070	±2.8	±3.0	±14.1	309.6 0.317	2017.825
01150−0908	GKM Aa,Ab	3.085	2022.403	0.397	0.041	51.5	110.5	260.2	189.6 0.036	TOK
–	–	...	...	...	...	...	...	...	275.7 0.036	2023.897
01158−6853	I 27CD	85.137	2001.25	0.0396	1.0877	31.1	140.6	132.7	9.5 0.996	TOK
5842	–	±0.213	±0.91	±0.0024	±0.0054	±0.3	±0.9	±3.3	13.9 0.988	2024.019
01245−2519	B 18	300	2140.66	0.90	0.470	79.1	48.9	89.4	340.7 0.176	TOK
6581	1127	...	...	...	...	...	...	...	341.4 0.176	2023.571

NEW ORBITS (continuation)

WDS HIP	Name ADS	P(yr) σ_P	T(yr) σ_T	e σ_e	a(″) σ_a	i(°) σ_i	Ω(°) σ_Ω	ω(°) σ_ω	2024 2025	Author(s) Last obs.
01246+4310	A 3001	159.6	1979.32	0.940	0.577	127.4	128.6	243.8	86.7 0.735	TOK
6583	1120	±13.1	±0.91	±0.000	±0.043	±5.9	±5.7	±4.9	86.4 0.739	2016.000
01406+0846	TOK 872	5.979	2004.6004	0.7096	0.0770	60.3	122.9	245.6	145.5 0.088	TOK+RV
7618	–	±0.026	±0.0045	±0.0059	±0.0025	±2.0	±2.6	±0.8	161.1 0.087	2023.896
01497−1022	BU 1168	121.0	1924.6	0.700	0.2949	94.9	205.5	106.8	209.0 0.276	TOK
8509	1454	±3.5	±3.5	±0.000	±0.0119	±0.6	±0.7	±2.5	208.8 0.274	2023.896
01503−8714	HDS 247	100	2030.11	0.355	0.206	115.4	90.8	92.5	66.9 0.110	TOK
8550	–	...	...	...	...	...	...	...	61.3 0.098	2023.910
02035−0455	TOK 873	20.0	2019.042	0.111	0.230	28.3	51.8	196.8	353.7 0.212	TOK
9603	–	...	...	...	...	...	...	...	11.1 0.227	2023.571
02143−4952	TOK 815	9.2	2017.40	0.30	0.145	78.0	273.4	111.7	269.1 0.155	TOK
10421	–	...	...	...	...	...	...	...	276.5 0.132	2023.664
02149−0639	HDS 298	59.5	2019.47	0.90	0.090	134.0	184.8	233.0	169.7 0.070	TOK
10467	–	...	...	...	...	...	...	...	167.0 0.079	2023.571
02166−5026	TOK 185	10.572	2012.51	0.0227	0.0907	47.1	266.6	338.9	274.6 0.088	TOK
10611	–	±0.062	±0.80	±0.0071	±0.0025	±1.4	±2.2	±27.3	302.4 0.076	2023.664
02167+0632	YSC 20	13.291	2010.630	0.4182	0.1254	27.4	45.9	31.2	79.7 0.070	TOK
10616	–	±0.045	±0.053	±0.0082	±0.0021	±3.8	±6.6	±7.0	146.2 0.080	2024.019
02297−0216	BU 519	1000	2033.68	0.80	1.028	64.9	80.5	104.5	114.0 0.155	TOK
11606	1900	...	...	...	...	...	...	...	118.5 0.141	2023.571
02370−3056	RST2283	143.1	1906.42	0.50	0.276	53.8	33.8	54.0	337.7 0.187	TOK
12192	–	...	...	...	...	...	...	...	340.5 0.187	2023.006
02405−2408	SEE 19	307.2	2016.762	0.8323	0.3794	148.0	235.5	81.6	57.0 0.129	TOK
12465	2044	±24.4	±0.048	±0.0087	±0.0197	±1.4	±2.7	±3.1	52.6 0.140	2022.611
02415−1506	HDS 351	42.7	1979.8	0.374	0.2413	88.8	24.2	294.6	23.3 0.126	TOK
12554	–	±6.0	±6.5	±0.041	±0.0252	±0.4	±0.5	±17.0	23.8 0.157	2023.664
03309−6200	TOK 190	3.6268	2021.0809	0.4454	0.0637	79.2	30.4	242.5	193.2 0.036	TOK
16370	–	±0.0106	±0.0272	±0.0227	±0.0011	±0.8	±0.8	±1.8	19.4 0.032	2023.664
03571−0828	RST4764	200	1995.3	0.243	0.227	124.7	155.9	353.9	96.4 0.127	TOK
–	–	...	...	...	...	...	...	...	93.2 0.126	2023.571

NEW ORBITS (continuation)

WDS HIP	Name ADS	P(yr) σ_P	T(yr) σ_T	e σ_e	a(″) σ_a	i(°) σ_i	Ω(°) σ_Ω	ω(°) σ_ω	2024 2025	Author(s) Last obs.
04021−3429	BU 1004AB	446	2049.4	0.360	1.591	155.0	66.8	71.5	41.8 1.080	TOK
18824	–	±105	±12.0	±0.048	±0.245	±10.6	±13.2	±15.6	40.3 1.072	2024.069
04123+0939	STT 74	113.0	1996.79	0.914	0.329	108.6	111.1	16.9	289.5 0.512	ALZ
–	3053	±2.1	±0.83	±0.017	±0.014	±3.2	±2.4	±7.4	289.3 0.520	2024.07
04224+1118	PAT 5	3.0490	2024.179	0.162	0.0508	32.9	121.4	124.6	217.7 0.036	TOK
20419	–	±0.0137	±0.105	±0.032	±0.0020	±9.4	±9.5	±11.3	356.1 0.047	2023.897
04279+2427	TOK 877	10.94	2015.148	0.192	0.1556	63.1	85.9	221.1	237.9 0.110	TOK
20834	–	±0.99	±0.249	±0.089	±0.0114	±3.1	±3.4	±10.4	261.1 0.132	2023.897
04506+1505	CHR 20	5.7383	2003.825	0.0480	0.0890	113.2	129.7	270.5	25.5 0.038	TOK
22505	–	±0.0060	±0.085	±0.0099	±0.0010	±0.6	±0.7	±5.2	320.6 0.083	2023.897
04550+1436	HDS 634	48.3	2013.03	0.527	0.101	160.0	61.4	103.5	181.9 0.114	TOK
22853	–	...	...	...	...	...	...	...	177.4 0.118	2022.683
05005+0506	STT 93	3200	1913.6	0.80	4.108	100.3	60.6	65.5	242.9 1.727	TOK
23177	3596	...	...	...	...	...	...	...	242.8 1.740	2024.069
05085−2102	YMG 9	4.397	2021.37	0.0306	0.0483	71.4	120.5	171.2	128.7 0.046	TOK
–	–	±0.132	±0.87	±0.0173	±0.0029	±2.6	±1.7	±71.9	250.4 0.019	2024.020
05286−4548	HDS 723	80	2016.917	0.937	0.157	114.4	148.5	135.0	192.8 0.079	TOK
25641	–	...	...	...	...	...	...	...	190.5 0.088	2023.913
05288−4001	B 1483	125.0	2003.95	0.575	0.426	79.7	186.6	120.0	28.2 0.190	TOK
25658	–	...	...	...	...	...	...	...	30.4 0.181	2022.845
05289−0318	DA 6	1800	1995.86	0.86	1.092	46.9	68.8	167.6	322.1 0.201	TOK
25667	4078	...	...	...	...	...	...	...	324.1 0.204	2023.897
05301−3228	B 1946	67.2	2023.239	0.7757	0.1140	34.9	180.2	358.7	219.5 0.027	TOK
–	–	±4.0	±0.073	±0.0082	±0.0014	±4.2	±5.5	±7.5	259.9 0.034	2023.913
05321−0305	JNN 39Aa,Ab	150	2019.445	0.8586	0.7899	66.5	132.8	44.8	304.5 0.309	TOK
–	–	fixed	±0.026	±0.0013	±0.0060	±0.3	±0.5	±0.6	307.2 0.365	2023.897
05321−0305	V1311Ori Ba,Bb	7.795	2022.159	0.000	0.080	31.8	75.9	0.0	160.1 0.068	TOK
–	–	...	...	...	...	...	...	...	211.8 0.074	2023.897
05418−5000	HU 1568	320	2019.19	0.327	1.028	109.8	174.4	70.3	108.0 0.255	TOK
26830	–	...	...	...	...	...	...	...	101.9 0.246	2023.913

NEW ORBITS (continuation)

WDS HIP	Name ADS	P(yr) σ_P	T(yr) σ_T	e σ_e	a(″) σ_a	i(°) σ_i	Ω(°) σ_Ω	ω(°) σ_ω	2024 2025	Author(s) Last obs.
05427−6708	I 745	205	2017.702	0.7856	0.542	75.4	244.9	205.7	220.0 0.113	TOK
26904	–	±35	±0.183	±0.0243	±0.061	±0.7	±0.8	±1.5	225.0 0.143	2023.910
06236+1739	A 2517	300	1969.49	0.372	0.187	105.5	26.7	139.0	173.5 0.082	TOK
30400	5002	...	...	...	...	...	...	...	172.0 0.080	2024.020
06481−0948	A 1056	113.6	1995.91	0.712	0.4049	78.5	70.4	257.8	85.1 0.351	TOK
–	5464	±3.7	±0.65	±0.047	±0.0219	±0.0	±1.5	±1.5	85.7 0.349	2023.897
07015−0942	A 3042AB	97.07	2007.689	0.6081	0.2840	48.3	222.8	117.0	102.1 0.216	TOK
–	5707	±1.48	±0.074	±0.0062	±0.0028	±0.9	±0.9	±0.9	105.4 0.220	2021.078
07374−3458	FIN 324AC	78.58	2016.7719	0.6559	0.3208	153.3	71.8	205.7	111.1 0.230	TOK
37096	–	±0.72	±0.0214	±0.0023	±0.0023	±0.7	±1.7	±1.6	105.6 0.252	2023.179
07427−3510	HDS1091	59.2	2025.27	0.399	0.1137	126.4	78.2	262.1	209.0 0.049	TOK
37578	–	±14.9	±1.70	±0.038	±0.0200	±6.8	±6.4	±22.8	187.9 0.042	2024.020
07558+1320	YSC 199	54.8	2008.175	0.0	0.152	117.8	121.4	0.0	3.3 0.078	TOK
38730	–	...	...	...	...	...	...	...	352.6 0.085	2023.897
07584−1501	TOK 882	15.94	2020.280	0.4367	0.2095	53.6	194.0	6.5	345.4 0.199	TOK
38969	–	±0.99	±0.033	±0.0250	±0.0090	±1.0	±1.5	±1.4	356.2 0.244	2023.897
08134−4534	TOK 832	9.67	2018.99	0.0	0.041	108.5	183.7	0.0	1.6 0.041	TOK
40269	–	...	...	...	...	...	...	...	346.8 0.031	2023.910
08277−0425	A 550	21.061	2002.582	0.8443	0.0939	150.5	34.5	47.8	255.4 0.024	TOK
41489	6825	±0.051	±0.069	±0.0095	±0.0027	±3.8	±8.2	±8.3	213.4 0.064	2023.897
08313−0601	BAG 49Aa,Ab	16.428	2007.596	0.718	0.2467	72.7	122.0	253.6	339.5 0.032	TOK
41802	–	±0.130	±0.136	±0.046	±0.0206	±1.9	±2.3	±1.8	121.3 0.145	2023.897
08375−5336	GKM Aa,Ab	2.899	2023.127	0.496	0.0520	41.7	66.4	199.9	58.7 0.068	TOK
–	–	±0.214	±0.046	±0.048	±0.0025	±8.7	±7.3	±10.9	99.6 0.065	2023.910
08437−2442	B 165	300	2125.04	0.50	0.518	76.3	34.6	119.3	24.5 0.582	TOK
–	6961	...	...	...	...	...	...	...	24.7 0.584	2016.960
08476+0001	RST5306Ca,Cb	300	1998.074	0.43	0.307	80.8	28.3	60.2	198.5 0.154	TOK
43167	–	...	...	...	...	...	...	...	199.2 0.162	2022.047
09033−7036	HEI 223AB	21.88	2023.22	0.206	0.086	109.2	88.4	301.2	103.3 0.056	TOK
44445	–	...	...	...	...	...	...	...	93.4 0.070	2023.179

NEW ORBITS (continuation)

WDS HIP	Name ADS	P(yr) σ_P	T(yr) σ_T	e σ_e	a(″) σ_a	i(°) σ_i	Ω(°) σ_Ω	ω(°) σ_ω	2024 2025	Author(s) Last obs.
09095−5538	YMG 29	12.0	2025.41	0.124	0.0478	39.4	157.2	212.9	321.5 0.043	TOK
–	–	fixed	±0.70	±0.055	±0.0014	±3.8	±11.3	±10.4	350.6 0.041	2023.910
09118−4218	HDS1332	68.1	2015.06	0.328	0.262	118.1	25.8	134.6	186.0 0.189	TOK
45139	–	...	...	...	...	...	...	...	181.4 0.184	2022.857
09133−5529	ELP 24	33.2	2021.416	0.806	0.0949	150.5	124.8	163.3	187.0 0.064	TOK
–	–	±10.2	±0.162	±0.045	±0.0176	±7.0	±25.9	±27.5	177.2 0.080	2023.910
09434−4903	I 1188AB	241.2	2004.66	0.85	0.302	62.0	108.8	104.1	332.9 0.146	TOK
–	–	...	...	...	...	...	...	...	334.5 0.148	2022.444
09477+2036	COU 284	133.9	2068.3	0.88	0.401	96.7	94.3	265.9	330.3 0.098	TOK
48051	–	...	...	...	...	...	...	...	327.9 0.100	2023.105
09567−5505	FIN 150	174.5	2038.36	0.30	0.147	78.5	64.8	52.6	64.6 0.114	TOK
48758	–	...	...	...	...	...	...	...	65.2 0.112	2021.158
10227−2350	B 197	171.5	1986.73	0.6839	0.2164	20.0	134.3	212.6	135.4 0.277	TOK
–	7746	±18.3	±0.77	±0.0251	±0.0101	±0.0	±41.2	±43.3	136.3 0.280	2022.047
10255−6504	HDS1499	20.44	2022.053	0.7818	0.0815	36.4	130.1	132.9	35.4 0.055	TOK
51031	–	±0.73	±0.055	±0.0105	±0.0019	±3.8	±4.7	±5.4	50.1 0.072	2024.020
10356−4715	GKM Aa,Ab	1.499	2016.643	0.471	0.022	103.4	83.5	137.5	64.6 0.010	TOK
–	–	...	...	...	...	...	...	...	91.5 0.028	2023.488
10406−5342	FIN 40	300	1927.11	0.20	0.349	35.0	146.8	355.9	282.8 0.351	TOK
–	–	...	...	...	...	...	...	...	283.7 0.353	2024.020
10527+0029	TOK 893BC	32.76	2001.454	0.20	0.242	128.1	180.9	259.2	39.1 0.210	TOK
53175	–	...	...	...	...	...	...	...	30.7 0.220	2023.417
11122−4616	HDS1596	44.0	2021.86	0.3502	0.2207	61.7	91.6	175.0	288.4 0.134	TOK
54718	–	±1.0	±0.43	±0.0065	±0.0043	±1.2	±1.4	±5.2	299.3 0.121	2024.020
11136−4749	HDS1602	100	2042.5	0.40	0.328	84.2	37.2	15.6	254.6 0.054	TOK
54836	–	...	...	...	...	...	...	...	271.7 0.039	2024.020
11238−3829	CHR 241	3.5305	2013.1822	0.3798	0.0582	111.8	155.7	254.8	182.5 0.027	TOK
55628	–	±0.0094	±0.0310	±0.0187	±0.0009	±0.9	±1.0	±1.4	134.1 0.055	2023.009
11272−1604	HDS1627Aa,Ab	47.47	1998.772	0.40	0.264	111.0	86.0	133.0	103.7 0.288	TOK
55884	–	...	...	...	...	...	...	...	101.7 0.299	2022.441

NEW ORBITS (continuation)

WDS HIP	Name ADS	P(yr) σ_P	T(yr) σ_T	e σ_e	a(″) σ_a	i(°) σ_i	Ω(°) σ_Ω	ω(°) σ_ω	2024 2025		Author(s) Last obs.
11430−3933	RST5358	151.85	2035.744	0.277	0.147	160.0	168.2	125.0	92.6	0.108	TOK
–	–	...	...	...	...	...	...	...	88.6	0.107	2024.020
11479−1528	A 2380	134.8	2035.66	0.95	0.327	95.0	70.2	245.7	23.2	0.036	TOK
57559	8309	...	...	...	...	...	...	...	16.2	0.031	2024.020
11585−7754	KOH 91	28.15	2016.753	0.534	0.113	70.1	192.2	147.9	152.5	0.070	TOK
–	–	...	...	...	...	...	...	...	160.3	0.085	2024.020
12018−3439	I 215AB	178.5	2016.29	0.4067	0.8619	111.3	269.8	268.4	295.5	0.365	TOK+RV
58669	–	±4.5	±0.43	±0.0063	±0.0145	±0.3	±0.3	±2.3	292.1	0.397	2023.570
12104−4352	TOK 897	12.76	2017.904	0.5966	0.0630	50.2	86.1	101.8	10.4	0.065	TOK
59341	–	±0.69	±0.050	±0.0230	±0.0025	±2.0	±3.3	±3.4	23.3	0.068	2023.010
12141−3644	SEE 147AB	200	1895.55	0.381	0.348	53.5	131.8	69.4	50.6	0.271	TOK
59659	–	...	...	...	...	...	...	...	52.2	0.271	2022.447
12175+0636	BU 796	172.1	1980.85	0.29	0.326	84.5	94.4	353.0	262.6	0.150	TOK
59916	8500	...	...	...	...	...	...	...	263.4	0.161	2023.570
12349−0509	RST4502	223.5	2006.343	0.20	0.226	66.1	63.6	151.0	249.0	0.185	TOK
61400	–	...	...	...	...	...	...	...	250.0	0.184	2023.570
12386−2704	BWL 32	17.85	2019.996	0.334	0.2296	135.2	188.5	74.3	359.4	0.240	TOK
–	–	±0.65	±0.093	±0.016	±0.0046	±1.6	±3.1	±5.7	347.7	0.250	2023.010
12407−4803	TOK 849	10.62	2018.49	0.50	0.090	15.3	236.1	180.0	238.7	0.135	TOK
61868	–	...	...	...	...	...	...	...	251.7	0.129	2023.010
12419−6444	HDS1779	44.91	2019.930	0.6386	0.1252	114.9	31.2	315.8	350.2	0.054	TOK
61559	–	±1.36	±0.058	±0.0097	±0.0020	±1.0	±1.0	±1.8	335.6	0.052	2024.020
13132−0501	TOK 402	17.478	2016.694	0.5827	0.1534	111.2	114.7	254.4	77.3	0.128	TOK
64499	–	±0.297	±0.016	±0.0097	±0.0014	±0.5	±0.4	±0.7	67.5	0.113	2023.570
13377−2337	RST2856AB	200	2117.6	0.046	0.350	79.9	103.6	15.6	288.5	0.330	TOK
–	–	...	...	...	...	...	...	...	288.8	0.325	2023.324
13513−2423	WSI 77	10.4748	2009.2901	0.3385	0.2848	96.5	171.6	140.9	181.6	0.203	TOK+RV
67620	–	±0.0067	±0.0126	±0.0021	±0.0006	±0.1	±0.1	±0.4	176.8	0.297	2023.324
13514+2620	YSC 50Aa,Ab	40	2027.29	0.239	0.238	86.7	216.4	149.4	21.0	0.041	TOK
67623	–	...	...	...	...	...	...	...	29.5	0.081	2023.106

NEW ORBITS (continuation)

WDS HIP	Name ADS	P(yr) σ_P	T(yr) σ_T	e σ_e	a(″) σ_a	i(°) σ_i	Ω(°) σ_Ω	ω(°) σ_ω	2024 2025	Author(s) Last obs.
14219−3126	BWL 38	9.768	2020.221	0.371	0.0997	106.0	236.8	287.0	159.8 0.037	TOK
–	–	±0.147	±0.093	±0.035	±0.0029	±2.3	±1.9	±4.5	102.5 0.051	2023.105
15071−0217	A 689	67.26	1994.46	0.6714	0.2194	107.4	145.1	12.6	323.1 0.361	TOK
73982	9504	±0.92	±0.41	±0.0151	±0.0032	±1.2	±0.8	±3.6	322.7 0.361	2023.570
15367−4208	TOK 408Ca,Cb	7.970	2014.410	0.000	0.0570	62.9	102.0	0.0	158.4 0.030	TOK
–	–	±0.158	±0.145	±0.000	±0.0015	±5.1	±3.3	±0.0	241.8 0.035	2023.179
15481−5811	SKF2839Aa,Ab	11.11	2023.7711	0.5653	0.1704	160.5	14.3	46.3	297.5 0.074	TOK
–	–	±0.45	±0.0182	±0.0152	±0.0020	±6.8	±10.6	±8.4	220.2 0.136	2023.570
16077−2125	MCA 43	11.321	2017.06	0.399	0.0476	81.6	143.0	199.9	149.8 0.050	TOK
79020	–	±0.105	±0.68	±0.105	±0.0030	±2.3	±1.7	±17.4	155.6 0.033	2023.180
16094−3103	I 557	136.20	2034.00	0.7260	0.6220	85.9	26.4	248.4	202.1 0.293	D et al.
–	–	±3.50	±0.80	0.0015	±0.0008	±1.0	±1.0	±2.5	202.7 0.293	2019.614
16120−1928	CHR 146Aa,Ab	10.033	2014.133	0.920	0.0994	90.1	344.9	108.4	344.9 0.028	TOK
79374	–	±0.096	±0.278	fixed	±0.0102	±0.8	±2.3	±2.9	163.9 0.012	2023.324
16161−3037	I 1586	180	2110.62	0.13	0.335	154.6	145.6	133.4	184.1 0.362	TOK
79706	–	...	...	...	...	...	...	...	182.5 0.363	2023.180
16488+1039	CRC 73	11.51	2021.160	0.1758	0.2002	71.4	27.6	187.5	354.5 0.108	TOK
–	–	±0.38	±0.256	±0.0191	±0.0055	±0.9	±1.6	±8.4	14.1 0.182	2023.418
16536−1045	YSC 156	31.3	2024.60	0.299	0.1076	35.6	25.4	129.7	146.7 0.065	TOK
82642	–	±6.0	±1.09	±0.037	±0.0128	±7.3	±12.5	±39.8	169.7 0.070	2023.570
16573−5344	SYU 11Aa,Ab	9.04	2023.909	0.593	0.0878	14.5	57.4	89.8	165.0 0.035	TOK
–	–	±0.41	±0.165	±0.095	±0.0097	±35.6	±103.3	±99.6	261.1 0.075	2023.488
17014−2639	HDS2410	52.32	2020.262	0.000	0.1571	105.0	3.8	0.0	356.6 0.143	TOK
83296	–	±1.05	±0.202	±0.000	±0.0012	±0.6	±0.5	±0.0	354.3 0.134	2022.288
17258−1918	RST5542AB	88.7	2034.64	0.75	0.288	76.0	165.9	260.3	326.4 0.164	TOK
–	–	...	...	...	...	...	...	...	328.4 0.164	2022.444
17415−5348	HDS 2502	20.315	2018.0452	0.5929	0.1341	136.4	158.8	322.0	34.7 0.146	TOK
86569	–	±0.217	±0.0268	±0.0061	±0.0009	±0.8	±1.3	±1.4	26.9 0.162	2023.488
18190−4759	B 936	88.84	2002.899	0.5610	0.3879	103.5	161.4	225.2	159.6 0.475	TOK
89752	–	±2.71	±0.228	±0.0148	±0.0048	±0.4	±0.4	±1.6	159.1 0.483	2022.291

NEW ORBITS (continuation)

WDS HIP	Name ADS	P(yr) σ_P	T(yr) σ_T	e σ_e	a(″) σ_a	i(°) σ_i	Ω(°) σ_Ω	ω(°) σ_ω	2024 2025	Author(s) Last obs.
18480−1009	HDS2665	42.033	2023.906	0.3130	0.4964	57.2	42.8	178.6	223.0 0.341	TOK
92250	–	±0.314	±0.086	±0.0046	±0.0019	±0.4	±0.5	±1.8	232.4 0.334	2023.417
18520−5418	TOK 325Aa,Ab	11.04	2017.454	0.2406	0.1033	50.3	107.9	328.3	281.3 0.124	TOK
92592	–	±0.19	±0.107	±0.0147	±0.0020	±1.7	±2.1	±4.1	295.9 0.116	2023.325
19242−6300	TOK 799	7.12	2024.075	0.585	0.0881	122.6	127.3	356.2	139.3 0.035	TOK
95385	–	±0.45	±0.114	±0.075	±0.0047	±4.3	±3.1	±7.9	358.6 0.050	2023.663
19294−4057	B 1385	51.82	1978.32	0.0995	0.1821	50.5	126.5	108.7	171.6 0.129	TOK
–	–	±0.92	±1.03	±0.0165	±0.0015	±0.9	±1.5	±4.1	181.1 0.120	2023.325
19369−6949	GKM Aa,Ab	2.013	2015.363	0.154	0.024	142.3	208.1	42.8	41.3 0.025	TOK
96487	–	...	...	...	...	...	...	...	252.9 0.021	2023.325
19453−6823	TOK 425Ba,Bb	4.291	2017.128	0.850	0.0503	133.1	139.5	203.8	118.4 0.084	TOK
97196	–	±0.072	±0.079	±0.000	±0.0046	±9.7	±12.9	±20.7	102.5 0.052	2023.325
19461−0318	A 2597	267	1971.9	0.708	0.302	71.7	120.9	267.8	144.9 0.234	TOK
–	12886	...	...	...	...	...	...	...	145.4 0.233	2022.682
19561−3208	BWL 53Ba,Bb	20.0	2025.37	0.522	0.1529	55.0	33.6	45.6	15.8 0.090	TOK
–	–	fixed	±0.45	±0.057	±0.0062	±2.6	±4.9	±4.0	46.0 0.072	2023.488
19563−3137	TOK 698	12.79	2015.929	0.164	0.1085	90.8	59.6	44.0	235.5 0.023	TOK
98108	–	±0.47	±0.191	±0.049	±0.0040	±0.5	±0.4	±0.0	63.2 0.025	2023.325
20216+1930	COU 327AB	51.71	1987.21	0.460	0.1306	81.0	67.5	326.1	247.6 0.165	TOK
100397	–	±2.53	±0.69	±0.048	±0.0037	±1.5	±0.9	±11.6	248.3 0.160	2023.571
20325−1637	SEE 512	42.62	2001.79	0.9146	0.1362	130.9	139.0	199.6	125.3 0.251	TOK
101357	13961	±0.72	±0.95	±0.0315	±0.0113	±6.5	±19.0	±27.8	124.6 0.249	2023.571
21130−1133	VOU 24AB	161.4	2013.66	0.3157	0.3088	143.2	98.0	250.0	158.3 0.190	TOK
–	–	±6.7	±0.57	±0.0186	±0.0082	±2.4	±2.5	±0.0	154.0 0.195	2023.418
21198−2621	BU 271AB	183.35	1846.64	0.6604	2.1587	65.3	243.0	196.0	38.1 0.696	TOK
105312	–	±2.16	±2.08	±0.0080	±0.0150	±0.3	±0.6	±1.8	43.8 0.722	2023.663
21206+1310	HDS3038	95.95	2009.823	0.306	0.265	90.8	126.0	251.6	126.3 0.221	TOK
105371	–	...	...	...	...	...	...	...	126.2 0.232	2022.289

NEW ORBITS (continuation)

WDS HIP	Name ADS	P(yr) σ_P	T(yr) σ_T	e σ_e	a(″) σ_a	i(°) σ_i	Ω(°) σ_Ω	ω(°) σ_ω	2024 2025	Author(s) Last obs.
21395−0003	BU 1212AB	48.87	2020.82	0.862	0.423	55.0	140.8	294.0	200.31 0.1872	D et al.
106942	14847	±0.30	±0.05	±0.005	±0.003	±0.5	±0.5	±1.0	209.90 0.2132	2023.571
21395−0003	BU 1212AB	48.88	2020.8144	0.8607	0.4211	54.7	140.4	294.4	200.3 0.187	TOK
106942	14847	±0.11	±0.0074	±0.0011	±0.0018	±0.3	±0.3	±0.3	210.0 0.213	2023.571
21477−3054	FIN 330AB	20.232	2007.338	0.4427	0.1232	108.8	32.5	216.5	270.8 0.045	TOK
107608	–	±0.134	±0.081	±0.0120	±0.0013	±0.4	±0.7	±1.8	241.4 0.060	2023.418
21522+0538	JOD 23AB	9.389	2019.3473	0.4337	0.1465	22.2	232.5	286.2	339.2 0.196	TOK
107948	–	±0.046	±0.0230	±0.0050	±0.0012	±1.9	±4.8	±4.3	357.2 0.193	2023.571
22441+0644	TOK 703	4.887	2015.886	0.370	0.0588	135.4	170.5	343.3	340.9 0.074	TOK
112240	–	±0.064	±0.090	±0.039	±0.0026	±5.4	±6.8	±12.8	283.4 0.038	2023.896
23052−1822	B 1898	120.0	1912.96	0.406	0.257	116.8	236.3	94.2	220.0 0.157	TOK
–	–	...	...	...	...	...	...	...	216.5 0.145	2023.896
23179−5429	RST1161	131.1	2009.454	0.286	0.197	140.6	90.6	103.7	277.3 0.162	TOK
115035	–	...	...	...	...	...	...	...	274.4 0.165	2020.927
23210−0229	LSC 107	35.0	2015.328	0.575	0.133	27.4	176.1	13.4	337.1 0.166	TOK
115294	–	...	...	...	...	...	...	...	341.6 0.176	2023.418
23224−6516	HDS3328	45.1	2022.80	0.68	0.143	69.3	110.2	134.9	295.2 0.056	TOK
115385	–	...	...	...	...	...	...	...	308.0 0.058	2023.896
23285+0926	YSC 138	20.28	2008.118	0.538	0.0774	149.0	154.1	326.5	325.3 0.090	TOK
115871	–	±0.73	±0.166	±0.036	±0.0022	±7.3	±13.5	±18.5	314.1 0.077	2023.418
23350+0136	MEL 9BC	35.23	2009.66	0.0819	0.4462	82.9	9.3	126.4	326.9 0.086	TOK
116384	–	±0.93	±1.18	±0.0119	±0.0124	±0.2	±0.4	±13.2	346.8 0.148	2023.896
23384−2922	B 606	182.7	2035.65	0.0	0.318	83.7	175.7	0.0	173.1 0.293	TOK
116649	16885	...	...	...	...	...	...	...	173.3 0.297	2023.896

ALZ = ALZNER
D et al. = DOCOBO, CAMPO, MÉNDEZ & COSTA
TOK = TOKOVININ
T+RV = Tokovinin, uses radial velocities

NEW DOUBLE STARS

Discovered by A. Debackère using LCO Global Telescope Network.

-V37: T1m Mc Donald Observatory, Fort Davis, Texas, USA, LCO
-W85: T1m Interamerican Observatory, Cerro Tololo, Chile, LCO
-W87: T1m Interamerican Observatory, Cerro Tololo, Chile, LCO
-E10: T2m Siding Spring Observatory, Faulkes Telescope South, Australia, LCO

STAR GAIA-DR3 Id.	Precise Coord (2000) RA	 DE	G mag	Plx e_{Plx}	pmRA e_{pmRA}	pmDE e_{pmDE}	Epoch	θ (°)	ρ (″)	# Obs	N	
DBR 337 A	062626.192	+290755.14	13.6	0.9859	1.015	-5.058	2023.055	216.85	5.548	1		V37
3435196211499321728				0.0136	0.015	0.011		0.04	0.004			
B	062625.937	+290750.67	13.99	0.9550	0.913	-5.064						
3435196211499323264				0.0180	0.020	0.015						
DBR 338 A	142834.873	-134019.58	10.67	6.0897	27.562	-36.894	2023.311	106.31	5.778	4		W85
6300120061433649024				0.0214	0.020	0.018		0.48	0.056			
B	142835.256	-134021.23	13.23	6.0795	27.991	-36.931						
6300120061433648896				0.0174	0.017	0.016						
DBR 338 A	142834.873	-134019.58	10.67	6.0897	27.562	-36.894	2023.311	4.10	72.847	4		W85
6300120061433649024				0.0214	0.020	0.018		0.03	0.051			
C	142835.226	-133906.93	11.26	6.0804	27.340	-36.853						
6300131846823910144				0.0224	0.022	0.018						
DBR 339 C	112415.612	-594444.08	10.99	1.5141	-14.641	1.406	2023.009	86.68	5.112	1	W87	1
5339062373862055936				0.0167	0.019	0.015		0.09	0.009			
D	112416.293	-594443.74	13.08	1.5660	-13.367	1.396						
5339062373862059136				0.0321	0.035	0.029						
DBR 340 A	112620.207	-600650.30	13.13	1.1927	-12.070	4.937	2023.009	305.53	2.602	1	W87	
5336046585281542144				0.0122	0.013	0.012		0.19	0.003			
B	112619.922	-600648.78	13.82	1.2340	-11.239	4.852						
5336046585260104576				0.0227	0.024	0.023						
DBR 341 A	181635.103	-182628.51	13.04	0.4512	0.685	-1.190	2023.678	310.86	2.778	1		E10
4094890612550440832				0.0157	0.019	0.016		0.06	0.004			
B	181634.955	-182626.68	14.25	0.4169	0.767	-1.034						
4094890612535415424				0.0465	0.057	0.048						
DBR 342 A	230200.611	+510948.67	12.92	0.5302	-2.390	-0.965	2023.896	277.64	4.417	1		V37
1989096459702126592				0.0177	0.016	0.015		0.31	0.023			
B	230200.143	+510949.23	13.93	0.5334	-2.274	-0.548						
1989096455403354112				0.0155	0.014	0.013						

Notes (1) The component C of DBR 349 CD is the secondary component of HRG 61 BC

PAPERS PUBLISHED IN 2023

1. ABU-ALROB, E. M. et al.: *Atmospheric and Fundamental Parameters of the Individual Components of Multiple Stellar Systems.* AJ, **165**, (6) 221A (2023).

2. ADELBERT, S. et al.: *Stability of coorbital planets around binaries.* A&A, **680**, A 29A (2023).

3. ANGUITA-AGUERO J. et al.: *Mass Ratio of Single-line Spectroscopic Binaries with Visual Orbits Using Bayesian Inference and Suitable Priors.* AJ, **166**, (4) 172A (2023).

4. ARROYO-POLONIO, S. et al.: *Binary star population of the Sculptor dwarf galaxy.* A&A, **677**, A 95A (2023).

5. BENISTY, D., EVANS, N. W. & DAVIES, A-C.: *The eccentricity distribution of wide binaries.* MNRAS, **518**, (1) 51B (2023).

6. BROOKS H. et al.: *Long-term 4.6 μm Variability in Brown Dwarfs and a New Technique for Identifying Brown Dwarf Binary Candidates.* AJ, **165**, (6) 232B (2023).

7. CHEN, Y. et al.: *New SB1s with Spectroscopic Orbits from LAMOST-LRS.* ApJS, **269**, (2) 41C (2023).

8. CHENG, C., MARTIN, R. G. & NIXON C.J.: *Can a binary star host three giant circumbinary planets?.* MNRAS, **525**, (3) 3781C (2023).

9. CHEVALIER, S. et al.: *Binary masses and luminosities with Gaia DR3.* A&A, **678**, A 19C (2023).

10. DAZA-PERILLA, I. V., et al.: *Automated classification of eclipsing binary systems in the VVV Survey.* MNRAS, **520**, (1) 828D (2023).

11. DOCOBO, J. A. et al.: *A Study of Eight Visual-spectroscopic Southern Binaries Using Recent SOAR Observations.* AJ, **166**, (5) 211D (2023).

12. DONADA, J. et al.: *The multiplicity fraction in 202 open clusters from Gaia.* A&A, **675**, A 89D (2023).

13. EYER, L. et al.: *Gaia Data Release 3. Summary of the variability processing and analysis.* A&A, **674**, A 13E (2023).

14. GAIA COLLABORATION: *Gaia Data Release 3. Stellar multiplicity, a teaser for the hidden treasure.* A&A, **674**, A 34G (2023).

15. GALLENNE, A. et al.: *The Araucaria project: High-precision orbital parallaxes and masses of binary stars. I. VLTI/GRAVITY observations of ten double-lined spectroscopic binaries.* A&A, **672**, A 119G (2023).

16. GONZÁLEZ-PAYO, J., CABALLERO, J. A. & CORTÉS-CONTRERAS, M.: *Reaching the boundary between stellar kinematic groups and very wide binaries. IV. The widest Washington Double Star systems with $\rho \geq 1000$ arcsec in Gaia DR3.* A&A, **670**, A 102G (2023).

17. GRATTON, R. et al.: *Multiples among B stars in the Scorpius-Centaurus association.* A&A, **678**, A 93G (2023).

18. GRUNER, D., BARNES, S. A. & JANES, K. A.: *Wide binaries demonstrate the consistency of rotational evolution between open cluster and field stars.* A&A, **675**, A 180G (2023).

19. HALBWACHS, J-L. et al.: *Gaia Data Release 3. Astrometric binary star processing.* A&A, **674**, A 9H (2023).

20. HOLL, B. et al.: *Gaia Data Release 3. Astrometric orbit determination with Markov chain Monte Carlo and genetic algorithms: Systems with stellar, sub-stellar, and planetary mass companions.* A&A, **674**, A 10H (2023).

21. HWANG, H-C.: *The mystery in Gaia DR3 triples: occurrence rates, orientations, and eccentricities of wide tertiaries around close binaries.* MNRAS, **518**, (2) 1750H (2023).

22. KAHRAMAN ALIÇAVUŞ, F. et al.: *Discovery of delta Scuti variables in eclipsing binary systems II. Southern TESS field search.* MNRAS, **524**, (1) 619K (2023).

23. KNIAZEV, A. & MALKOV, O.: *Searching For Wide Binary Stars with Non-coeval Components in the Southern Sky.* RAA, **23**, (5) 055021 (2023).

24. KUMMER, F., TOONEN, S. & DE KOTER, A.: *The main evolutionary pathways of massive hierarchical triple stars.* A&A, **678**, A 60K (2023).

25. LECLERC, A. et al.: *Combining HIPPARCOS and Gaia data for the study of binaries: The BINARYS tool.* A&A, **672**, A 82L (2023).

26. LESTER K. V. et al.: *Visual Orbits and Alignments of Planet-hosting Binary Systems.* AJ, **166**, (4) 166L (2023).

27. LONG, L. et al.: *Investigating 16 Open Clusters in the Kepler/K2-Gaia DR3 Field. I. Membership, Binary Systems, and Rotation.* ApJS, **268**, (1) 30L (2023).

28. MASON, B.D. et al.: *Speckle Interferometry at SOAR in 2022.* AJ, **166**, (4) 139M (2023).

29. MODAK, S. & HAMILTON, C.: *Eccentricity dynamics of wide binaries - I. The effect of Galactic tides.* MNRAS, **524**, (2) 3102M (2023).

30. MOWLAVI, N. et al.: *Gaia Data Release 3. The first Gaia catalogue of eclipsing-binary candidates.* A&A, **674**, A 16M (2023).

31. NAZÉ, Y. et al.: *Extreme mass ratios and fast rotation in three massive binaries.* MNRAS, **525**, (2) 1641N (2023).

32. OPLIŠTILOVÁ, A. et al.: *Spectrum of the secondary component and new orbital elements of the massive triple star δ Ori A.* A&A, **672**, A 31O (2023).

33. PANG X. et al.: *Binary Star Evolution in Different Environments: Filamentary, Fractal, Halo, and Tidal Tail Clusters.* AJ, **166**, (3) 110P (2023).

34. PASS, E. K. & CHARBONNEAU, D.: *G 68-34: A Double-lined M-dwarf Eclipsing Binary in a Hierarchical Triple System.* ApJ, **949**, (2) 37P (2023).

35. PAUWELS, T. et al.: *The multiplicity of massive stars in the Scorpius OB1 association through high-contrast imaging.* A&A, **678**, A 172P (2023).

36. POWELL, B. P., KOSTOV, V. B. & TOKOVININ, A.: *A Hunting Expedition For High-Order Hierarchies.* MNRAS, **524**, (3) 4296P (2023).

37. ROWAN, D. M. et al.: *The value-added catalogue of ASAS-SN eclipsing binaries - II. Properties of extra-physics systems.* MNRAS, **520**, (2) 2386R (2023).

38. ROWAN, D. M. et al.: *The value-added catalogue of ASAS-SN eclipsing binaries - III. Masses and radii of Gaia spectroscopic binaries.* MNRAS, **523**, (2) 2641R (2023).

39. SHARIAT, C. et al.: *Dynamical Evolution of White Dwarfs in Triples in the Era of Gaia.* ApJL, **955**, (1) L14 (2023).

40. TOKOVININ, A.: *Spectroscopic Orbits of Subsystems in Multiple Stars. IX.* AJ, **165**, (4) 160T (2023).

41. TOKOVININ, A.: *Dynamics of Four Triple Systems.* AJ, **165**, (4) 165T (2023).

42. TOKOVININ, A.: *Exploring Thousands of Nearby Hierarchical Systems with Gaia and Speckle Interferometry.* AJ, **165**, (4) 180T (2023).

43. TOKOVININ, A.: *Spectroscopic Orbits of Subsystems in Multiple Stars. X (Summary).* AJ, **165**, (6) 220T (2023).

44. VYNATHEYA, P, MARDLING, R. A. & HAMERS A. S.: *Quadruple-star systems are not always nested triples: a machine learning approach to dynamical stability.* MNRAS, **525**, (2) 2388V (2023).

45. WANG, W. et al.: *Unraveling the Complexity of Dwarf Galaxy Dynamics: A Study of Binary Orbital Motions.* ApJ, **956**, (2) 91W (2023).

46. WHITING M. L. et al.: *A Catalog of Nearby Accelerating Star Candidates in Gaia DR3.* AJ, **165**, (5) 193W (2023).

47. WU, Y. et al.: *PSF-based Analysis for Detecting Unresolved Wide Binaries.* ApJS, **268**, (1) 37W (2023).

48. ZASCHE, P. et al.: *Detection of seven 2+2 doubly eclipsing quadruple systems.* A&A, **675**, A 113Z (2023).

49. ZHANG, H. et al.: *Dynamical masses and ages of Sirius-like systems.* MNRAS, **524**, (1) 695Z (2023).

50. ZHOU, T. et al.: *Resolved Binaries with Late-M and L Dwarf Companions Identified in Gaia eDR3.* RNAAS, **7**, (3) 50Z (2023).

****

The deadline for contributions to Information Circular No. 213 is:

June 15th 2024

J. A. Docobo (joseangel.docobo@usc.es) [1,2]
Tel: +34 881 815 016

[1] Observatorio Astronómico R. M. Aller
P. O. Box 197
http://www.usc.es/astro
Universidade de Santiago de Compostela
SPAIN

[2] Real Academia de Ciencias de Zaragoza
Facultad de Ciencias
C/ Pedro Cerbuna, 12
50009 Zaragoza
SPAIN

ISSN: 1024-7769